What Is Claimed Is:

1   1. A method of enabling a session between a mobile node and a correspondent node to

2   continue without termination when said mobile node moves from an old location to a new location,

3   wherein said mobile node is assigned an old address in said old location and a new address in said new

4   location, said old address being contained in a first layer-3 network address space and said new

5   address being contained in a second layer-3 network address space, said method comprising:

6   configuring a first network device to replace said old address with said new address in a

7   destination address field of a packet sent by said correspondent node, wherein said first network device

8   is located in a path from said correspondent node to said mobile node,

9   wherein said configuring is performed after said mobile node moves from said old location to

10   said new location,

11   wherein said configuring enables said correspondent node to continue to send packets using

12   said old layer-3 address even after said mobile node is assigned said new address.

1   2. The method of claim 1, further comprises configuring a second network device in said path

2   to cause said second network device to replace said new address in said packet with said old address

3   prior to delivering said packet to said mobile node such that said mobile node receives said packet with

4   said old address in said destination address field.

1   3. The method of claim 2, further comprising configuring a static route on said second network

2   device to cause said packet with said new address in said destination address field to be delivered to

3   said mobile node in said second layer-3 address space.

1   4. The method of claim 3, wherein said configuring a second network device and said

2   configuring a static route are performed from a proxy server located in said new location.

1   5. The method of claim 4, said method further comprising:

2   receiving a registration message in said proxy server from said mobile node in said new location;

3   receiving data representing said old address in said proxy server; and

4   sending a configuration message to said second network device to store in a network address

5   translation (NAT) table a mapping of said new address to said old address.

1   6. The method of claim 5, wherein said registration message contains said data representing

2   said old address.

1   7. The method of claim 6, wherein said first network device comprises a first router located

2   at a first hop from said correspondent node, and said second network device comprises a second

3   router located at a first hop from said mobile node in said new location.

1   8. The method of claim 1, further comprising:

2   determining in said mobile node that said session is active between said mobile node and said

3   correspondent node; and

4   sending a notification message to a server close to said correspondent node after said mobile

5   node moves to said new location, wherein said notification message requests said configuring.

1   9. The method of claim 8, wherein said server causes said configuring in response to receiving

2   said notification message, wherein said notification message contains said new address and said old

3   address.

1   10. The method of claim 9, wherein said server is implemented according to Session Initiation

2   Protocol (SIP).

1   11. A method of enabling a session between a mobile node and a correspondent node to

2   continue without termination when said mobile node moves from an old location to a new location,

3   wherein said mobile node is assigned an old address in said old location and a new address in said new

4   location, said old address being contained in a first layer-3 network address space and said new

5   address being contained in a second layer-3 network address space, said method being performed in

6   a server, said method comprising:

7   receiving in said server said old address and said new address after said mobile node has

8   moved from said old location to said new location; and

9   configuring from said server a network device, wherein said network device is located in a path

10   between said mobile node and said correspondent node to translate between said old address and said

11   new address.

1   12. The method of claim 11, wherein said network device comprises a router and said

2   configuring comprises storing a mapping entry in a network address translation (NAT) table which

3   causes said router to translate according to said mapping entry.

1   13. The method of claim 12, wherein said router comprises a first hop router from one of said

2   mobile node and correspondent node.

1   14. The method of claim 13, wherein said server comprises a proxy server serving said mobile

2   node in said new location, wherein said first hop router is at a first hop from said mobile node, and

3   wherein said old address and said new address are received in a registration message received from

4   said mobile node.

1   15. The method of claim 14, wherein said registration message is received according to

2   Session Initiation Protocol (SIP).

1   16. The method of claim 14, wherein said configuring comprises configuring said router to map

2   said new address in a destination address field of a packet to said old address, said method further

3   comprising:

4   configuring a static route in said router to cause said packet with said old address to be

5   delivered to said mobile node in said new location.

1   17. The method of claim 13, wherein said server comprises a proxy server for said

2   correspondent node, wherein said first hop router is at a first hop from said correspondent node,

3   wherein said configuring comprises configuring said first hop router to map said old address in a

4   destination address field of a packet to said new address.

1   18. The method of claim 17, wherein each of said new address and said old address comprises

2   a Internet Protocol address.

1   19. A method of enabling a session between a mobile node and a correspondent node to

2   continue without termination when said mobile node moves from an old location to a new location,

3   wherein said mobile node is assigned an old address in said old location, said old address being

4   contained in a first layer-3 network address space, said method being performed in said mobile node,

5   said method comprising:

6   initiating assignment of a new address after moving to said new location, said new address being

7   contained in a second layer-3 network address space;

8   receiving said new address; and

9   sending said old address and said new address to a proxy server at said new location, wherein

10   said proxy server configures a network address translation (NAT) table in a first network device using

11   said old address and said new address.

1   20. The method of claim 19, further comprising:

2   determining a correspondent node related to said session; and

3   sending said old address and said new address to an another server serving said correspondent

4   node, wherein said another server configures a NAT table in a second network device using said old

5   address and said new address.

1   21. A server enabling a session between a mobile node and a correspondent node to continue

2   without termination when said mobile node moves from an old location to a new location, wherein said

3   mobile node is assigned an old address in said old location and a new address in said new location, said

4   old address being contained in a first layer-3 network address space and said new address being

5   contained in a second layer-3 network address space, said method being performed in a server, said

6   server comprising:

7   a network interface receiving said old address and said new address after said mobile node has

8   moved from said old location to said new location; and

9   a configuration block configuring a network device located in a path between said mobile node

10   and said correspondent node to translate between said old address and said new address.

1   22. The server of claim 21, wherein said network device comprises a router and wherein said

2   configuration block stores a mapping entry in a network address translation (NAT) table which causes

3   said router to translate according to said mapping entry.

1   23. The server of claim 22, wherein said router comprises a first hop router from one of said

2   mobile node and correspondent node.

1   24. The server of claim 23, wherein said server comprises a proxy server serving said mobile

2   node in said new location, wherein said first hop router is at a first hop from said mobile node, and

3   wherein said old address and said new address are received in a registration message received from

4   said mobile node.

1   25. The server of claim 24, wherein said registration message is received according to Session

2   Initiation Protocol (SIP).

1   26. The server of claim 24, wherein said configuration block configures said router to map said

2   new address in a destination address field of a packet to said old address, said configuration block

3   further configuring a static route in said router to cause said packet with said old address to be delivered

4   to said mobile node in said new location.

1   27.   The server of claim 23, wherein said server comprises a proxy server for said

2   correspondent node, wherein said first hop router is at a first hop from said correspondent node,

3   wherein said configuration block configures said first hop router to map said old address in a destination

4   address field of a packet to said new address.

1   28. The server of claim 27, wherein each of said new address and said old address comprises

2   a Internet Protocol address.

1   29. The server of claim 27, wherein said server comprises a mobile server and is integrated

2   with said first hop router into one box, and wherein said server stores a NAT entry in a NAT table

3   comprised in said one box.

1   30. A server enabling a session between a mobile node and a correspondent node to continue

2   without termination when said mobile node moves from an old location to a new location, wherein said

3   mobile node is assigned an old address in said old location and a new address in said new location, said

4   old address being contained in a first layer-3 network address space and said new address being

5   contained in a second layer-3 network address space, said server comprising:

6   means for receiving in said server said old address and said new address after said mobile node

7   has moved from said old location to said new location; and

8   means for configuring from said server a network device, wherein said network device is

9   located in a path between said mobile node and said correspondent node to translate between said old

10   address and said new address.

1   31. The server of claim 30, wherein said network device comprises a router and said means

2   for configuring stores a mapping entry in a network address translation (NAT) table which causes said

3   router to translate according to said mapping entry.

1   32. The server of claim 31, wherein said router comprises a first hop router from one of said

2   mobile node and said correspondent node.

1   33. The server of claim 32, wherein said server comprises a proxy server serving said mobile

2   node in said new location, wherein said first hop router is at a first hop from said mobile node, and

3   wherein said old address and said new address are received in a registration message received from

4   said mobile node.

1   34. The server of claim 33, wherein said registration message is received according to Session

2   Initiation Protocol (SIP).

1   35. The server of claim 33, wherein said means for configuring configures said router to map

2   said new address in a destination address field of a packet to said old address, said server further

3   comprising:

4   means for configuring a static route in said router to cause said packet with said old address

5   to be delivered to said mobile node in said new location.

1   36.   The server of claim 32, wherein said server comprises a proxy server for said

2   correspondent node, wherein said first hop router is at a first hop from said correspondent node,

3   wherein said means for configuring configures said first hop router to map said old address in a

4   destination address field of a packet to said new address.

1   37. The server of claim 36, wherein each of said new address and said old address comprises

2   an Internet Protocol address, and wherein said proxy server is integrated with said router into one box.

1   38. A mobile node in which a session between a mobile node and a correspondent node can

2   continue without termination when said mobile node moves from an old location to a new location,

3   wherein said mobile node is assigned an old address in said old location, said old address being

4   contained in a first layer-3 network address space, said mobile node comprising:

5   means for initiating assignment of a new address after moving to said new location, said new

6   address being contained in a second layer-3 network address space;

7   means for receiving said new address; and

8   means for sending said old address and said new address to a proxy server at said new

9   location, wherein said proxy server configures a network address translation (NAT) table in a first

10   network device using said old address and said new address.

1   39. The mobile node of claim 38, further comprising:

2   means for determining a correspondent node related to said session; and

3   means for sending said old address and said new address to an another server serving said

4   correspondent node, wherein said another server configures a NAT table in a second network device

5   using said old address and said new address.

1   40. A system for enabling a session between a mobile node and a correspondent node to

2   continue without termination when said mobile node moves from an old location to a new location,

3   wherein said mobile node is assigned an old address in said old location and a new address in said new

4   location, said old address being contained in a first layer-3 network address space and said new

5   address being contained in a second layer-3 network address space, said system comprising:

6   means for configuring a first network device to replace said old address with said new address

7   in a destination address field of a packet sent by said correspondent node, wherein said first network

8   device is located in a path from said correspondent node to said mobile node,

9   wherein said configuring is performed after said mobile node moves from said old location to

10   said new location,

11   wherein said configuring enables said correspondent node to continue to send packets using

12   said old layer-3 address even after said mobile node is assigned said new address.

1   41. The system of claim 40, further comprises means for configuring a second network device

2   in said path to cause said second network device to replace said new address in said packet with said

3   old address prior to delivering said packet to said mobile node such that said mobile node receives said

4   packet with said old address in said destination address field.

1   42. The system of claim 41, further comprising means for configuring a static route on said

2   second network device to cause said packet with said new address in said destination address field to

3   be delivered to said mobile node in said second layer-3 address space.

1   43. The system of claim 42, said system further comprising:

2   means for receiving a registration message in said proxy server from said mobile node in said

3   new location;

4   means for receiving data representing said old address in said proxy server; and

5   means for sending a configuration message to said second network device to store in a network

6   address translation (NAT) table a mapping of said new address to said old address.

1   44. The system of claim 43, wherein said registration message contains said data representing

2   said old address.

1   45. The system of claim 44, wherein said first network device comprises a first router located

2   at a first hop from said correspondent node, and said second network device comprises a second

3   router located at a first hop from said mobile node in said new location.

1   46. The system of claim 40, further comprising:

2   means for determining in said mobile node that said session is active between said mobile node

3   and said correspondent node; and

4   means for sending a notification message to a server close to said correspondent node after said

5   mobile node moves to said new location, wherein said notification message requests said configuring.

1   47. A computer readable medium carrying one or more sequences of instructions for causing

2   a system to enable a session between a mobile node and a correspondent node to continue without

3   termination when said mobile node moves from an old location to a new location, wherein said mobile

4   node is assigned an old address in said old location and a new address in said new location, said old

5   address being contained in a first layer-3 network address space and said new address being contained

6   in a second layer-3 network address space, wherein execution of said one or more sequences of

7   instructions by one or more processors contained in said system causes said one or more processors

8   to perform the action of:

9   configuring a first network device to replace said old address with said new address in a

10   destination address field of a packet sent by said correspondent node, wherein said first network device

11   is located in a path from said correspondent node to said mobile node,

12   wherein said configuring is performed after said mobile node moves from said old location to

13   said new location,

14   wherein said configuring enables said correspondent node to continue to send packets using

15   said old layer-3 address even after said mobile node is assigned said new address.

1   48. The computer program product claim 47, further comprises configuring a second network

2   device in said path to cause said second network device to replace said new address in said packet

3   with said old address prior to delivering said packet to said mobile node such that said mobile node

4   receives said packet with said old address in said destination address field.

1   49. The computer program product of claim 48, further comprising configuring a static route

2   on said second network device to cause said packet with said new address in said destination address

3   field to be delivered to said mobile node in said second layer-3 address space.

1   50. The computer program product of claim 49, wherein said configuring a second network

2   device and said configuring a static route are performed from a proxy server located in said new

3   location.

1   51. The computer program product of claim 50, further comprising:

2   receiving a registration message in said proxy server from said mobile node in said new location;

3   receiving data representing said old address in said proxy server; and

4   sending a configuration message to said second network device to store in a network address

5   translation (NAT) table a mapping of said new address to said old address.

1   52. The computer program product of claim 51, wherein said registration message contains

2   said data representing said old address.

1   53. The computer program product of claim 52, wherein said first network device comprises

2   a first router located at a first hop from said correspondent node, and said second network device

3   comprises a second router located at a first hop from said mobile node in said new location.

1   54. The computer program product of claim 47, further comprising:

2   determining in said mobile node that said session is active between said mobile node and said

3   correspondent node; and

4   sending a notification message to a server close to said correspondent node after said mobile

5   node moves to said new location, wherein said notification message requests said configuring.

1   55. The computer program product of claim 54, wherein said server causes said configuring

2   in response to receiving said notification message, wherein said notification message contains said new

3   address and said old address.

1   56. The computer program product of claim 55, wherein said server is implemented according

2   to Session Initiation Protocol (SIP).

1   57. A computer readable medium carrying one or more sequences of instructions for causing

2   a server to enable a session between a mobile node and a correspondent node to continue without

3   termination when said mobile node moves from an old location to a new location, wherein said mobile

4   node is assigned an old address in said old location and a new address in said new location, said old

5   address being contained in a first layer-3 network address space and said new address being contained

6   in a second layer-3 network address space, wherein execution of said one or more sequences of

7   instructions by one or more processors contained in said server causes said one or more processors

8   to perform the action of:

9   receiving in said server said old address and said new address after said mobile node has

10   moved from said old location to said new location; and

11   configuring from said server a network device, wherein said network device is located in a path

12   between said mobile node and said correspondent node to translate between said old address and said

13   new address.

1   58. The computer program product of claim 57, wherein said network device comprises a

2   router and said configuring comprises storing a mapping entry in a network address translation (NAT)

3   table which causes said router to translate according to said mapping entry.

1   59. The computer program product of claim 58, wherein said router comprises a first hop

2   router from one of said mobile node and correspondent node.

1   60. The computer program product of claim 59, wherein said server comprises a proxy server

2   serving said mobile node in said new location, wherein said first hop router is at a first hop from said

3   mobile node, and wherein said old address and said new address are received in a registration message

4   received from said mobile node.

1   61. The computer program product of claim 60, wherein said registration message is received

2   according to Session Initiation Protocol (SIP).

1   62. The computer program product of claim 61, wherein said configuring comprises configuring

2   said router to map said new address in a destination address field of a packet to said old address, said

3   method further comprising:

4   configuring a static route in said router to cause said packet with said old address to be

5   delivered to said mobile node in said new location.

1   63. The computer program product of claim 59, wherein said server comprises a proxy server

2   for said correspondent node, wherein said first hop router is at a first hop from said correspondent

3   node, wherein said configuring comprises configuring said first hop router to map said old address in

4   a destination address field of a packet to said new address.

1   64. The computer program product of claim 63, wherein each of said new address and said

2   old address comprises a Internet Protocol address.

1   65. A computer readable medium carrying one or more sequences of instructions for causing

2   a system to enable a session between a mobile node and a correspondent node to continue without

3   termination when said mobile node moves from an old location to a new location, wherein said mobile

4   node is assigned an old address in said old location, said old address being contained in a first layer-3

5   network address space, wherein execution of said one or more sequences of instructions by one or

6   more processors contained in said system causes said one or more processors to perform the action

7   of:

8   initiating assignment of a new address after moving to said new location, said new address being

9   contained in a second layer-3 network address space;

10   receiving said new address; and

11   sending said old address and said new address to a proxy server at said new location, wherein

12   said proxy server configures a network address translation (NAT) table in a first network device using

13   said old address and said new address.

1   66. The computer program product of claim 65, further comprising:

2   determining a correspondent node related to said session; and

3   sending said old address and said new address to an another server serving said correspondent

4   node, wherein said another server configures a NAT table in a second network device using said old

5   address and said new address.